

# Work Order ID 136653

**\*136653\***

Page 1

Wednesday, September 02, 2015 2:43:25 PM

Item ID: 646.3011

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: RH Half

Start Date: 9/1/2015 Start Qty: 6.00 **\*6\***

Cust Item ID:

Required Date: 9/1/2015 Req'd Qty: 6.00 **\*6\***

Customer:

Reference:

Approvals: Process Plan: MLJ Date: SEP 03 2015 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
| 646.3000 | N/C          |

100

0.00

**\*100\***

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut Blank at 9.700"

6 1 15/12/09

110

0.02

**\*110\***

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.02

HAAS CNC vertical machine #1

1-Machine per folio FB158

DWG REV: N/C

FOLIO REV: AA

6 1 15/12/09

2- deburr and break all sharp edges

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MRB (QS1042) Approval                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Completed By                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Lead hand / Supervisor<br>Approval Verification                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | QC / QA Coordinator<br>Approval                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment <input type="checkbox"/><br>Design <input type="checkbox"/><br>Doc/Data <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Pre <input type="checkbox"/><br>Material <input type="checkbox"/><br>Internal Transport <input type="checkbox"/><br>Tribal Knowledge <input type="checkbox"/><br>LOA <input type="checkbox"/><br>Substation <input type="checkbox"/><br>Past Expiry Date <input type="checkbox"/><br>Misidentified <input type="checkbox"/> | No Re-verification <input type="checkbox"/><br>Operator <input type="checkbox"/><br>Offset/Setup <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Training <input type="checkbox"/><br>Use for Testing <input type="checkbox"/><br>Poor Information <input type="checkbox"/><br>Rushing <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Past Due <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Centre Not Concentric <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave <input type="checkbox"/><br>Cuffs <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Heat Treat <input type="checkbox"/><br>Wave/Twist in Tube <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Temperature/Cure <input type="checkbox"/><br>Set-up <input type="checkbox"/><br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Inspection Incomplete/Unqualified <input type="checkbox"/><br>Contamination <input type="checkbox"/><br>Countersink <input type="checkbox"/><br>Cut Too Short <input type="checkbox"/><br>Instructions Incomplete/Unclear <input type="checkbox"/><br>Drill Holes <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set <input type="checkbox"/><br>Misabeled <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Misaligned/off center <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/><br>Outside Dimensions <input type="checkbox"/><br>Over/Under tolerance <input type="checkbox"/><br>Part Incorrect <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Part Moved <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Misread <input type="checkbox"/><br>Turning Sequence <input type="checkbox"/> |
| OTHER : <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Work Order ID 136653****\*136653\***

Page 2

Wednesday, September 02, 2015 2:43:25 PM

Item ID: 646.3011

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: RH Half

Start Date: 9/1/2015 Start Qty: 6.00

**\*6\***

Cust Item ID:

Required Date: 9/1/2015 Req'd Qty: 6.00

**\*6\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                      | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp             |
|--------------------------------|-----------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------------------|
| 120                            | QC2- Inspect parts off machine FAI/FAIB       | 0.00                 |         |        |              | 6             | Ø             |                  | <i>WSP</i><br>15/11/09     |
| <b>*120*</b>                   |                                               |                      |         |        |              |               |               |                  |                            |
| QC                             | Memo                                          | 0.00                 |         |        |              |               |               |                  |                            |
| Quality Control                |                                               |                      |         |        |              |               |               |                  |                            |
| 130                            | QC8- Inspect parts - second check             | 0.00                 |         |        |              | 6             | Ø             |                  | DAS<br>44<br>9-09/15/12/10 |
| <b>*130*</b>                   |                                               |                      |         |        |              |               |               |                  |                            |
| QC                             | Memo                                          | 0.00                 |         |        |              |               |               |                  |                            |
| Quality Control                |                                               |                      |         |        |              |               |               |                  |                            |
| 140                            | Outsource process-Anodize per QSI017 4.1.10.1 | 0.00                 |         |        |              | 6             |               |                  | DEC 14 2015 <i>CZ</i>      |
| <b>*140*</b>                   |                                               |                      |         |        |              |               |               |                  |                            |
| Outsource4                     | Memo                                          | 18.00                |         |        |              |               |               |                  |                            |
| Outsource process - Anodize    | Issue P/O to ATG : <u>30730</u>               |                      |         |        |              |               |               |                  |                            |
|                                | 1- Black Anodize as per Dwg 646.3000          |                      |         |        |              |               |               |                  |                            |
|                                | 2- PRIME AS PER DWG, SEE NOTE #2              |                      |         |        |              |               |               |                  |                            |
|                                | Certification of Comformity is required       |                      |         |        |              |               |               |                  |                            |

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            |                                                |                                               |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------|-----------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                            |                                                |                                               |
| Date :                                                       | Step #:                                                                                                                                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            | MRB (QS1042) Approval                          |                                               |
| Description Work Order Deviation                             |                                                                                                                                                                                    | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                            | Completed By                                   |                                               |
|                                                              |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            | Lead hand / Supervisor Approval Verification   |                                               |
|                                                              |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            | QC / QA Coordinator Approval                   |                                               |
|                                                              |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            |                                                |                                               |
| Root Cause                                                   |                                                                                                                                                                                    | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |                                                |                                               |
| Environment <input type="checkbox"/>                         | No Re-verification <input type="checkbox"/>                                                                                                                                        | Pressure/Forced <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Temperature/Cure <input type="checkbox"/>                  | Power Loss/Surge <input type="checkbox"/>      | Positioned Wrong <input type="checkbox"/>     |
| Design <input type="checkbox"/>                              | Operator <input type="checkbox"/>                                                                                                                                                  | Bending <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Set-up <input type="checkbox"/>                            | Folio/Program <input type="checkbox"/>         | Outside Dimensions <input type="checkbox"/>   |
| Doc/Data <input type="checkbox"/>                            | Offset/Setup <input type="checkbox"/>                                                                                                                                              | Centre Not Concentric <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | BOM/Route <input type="checkbox"/>                         | Grain <input type="checkbox"/>                 | Over/Under tolerance <input type="checkbox"/> |
| Equip/Tooling <input type="checkbox"/>                       | Supplier <input type="checkbox"/>                                                                                                                                                  | Cracks <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Broken/Damage/Defect <input type="checkbox"/>              | Weld <input type="checkbox"/>                  | Part Incorrect <input type="checkbox"/>       |
| Handling/Pre <input type="checkbox"/>                        | Training <input type="checkbox"/>                                                                                                                                                  | Crimp/Kink/Ripple/Wave <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/>    | Part Lost/Missing <input type="checkbox"/>    |
| Material <input type="checkbox"/>                            | Use for Testing <input type="checkbox"/>                                                                                                                                           | Cuffs <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Contamination <input type="checkbox"/>                     | Out of Sequence <input type="checkbox"/>       | Part Moved <input type="checkbox"/>           |
| Internal Transport <input type="checkbox"/>                  | Poor Information <input type="checkbox"/>                                                                                                                                          | Crushing <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Countersink <input type="checkbox"/>                       | Off-set <input type="checkbox"/>               | Drawing <input type="checkbox"/>              |
| Tribal Knowledge <input type="checkbox"/>                    | Rushing <input type="checkbox"/>                                                                                                                                                   | Heat Treat <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Cut Too Short <input type="checkbox"/>                     | Mislabeled <input type="checkbox"/>            | Finish <input type="checkbox"/>               |
| LOA <input type="checkbox"/>                                 | Product Improvement <input type="checkbox"/>                                                                                                                                       | Wave/Twist in Tube <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Instructions Incomplete/Unclear <input type="checkbox"/>   | Fit/Function <input type="checkbox"/>          | Misread <input type="checkbox"/>              |
| Substation <input type="checkbox"/>                          | Process Improvement <input type="checkbox"/>                                                                                                                                       | Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Drill Holes <input type="checkbox"/>                       | Misaligned/off center <input type="checkbox"/> | Turning Sequence <input type="checkbox"/>     |
| Past Expiry Date <input type="checkbox"/>                    | Manufacturing Process <input type="checkbox"/>                                                                                                                                     | OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |                                                |                                               |
| Misidentified <input type="checkbox"/>                       | Past Due <input type="checkbox"/>                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            |                                                |                                               |

# Work Order ID 136653

**\*136653\***

Page 3

Wednesday, September 02, 2015 2:43:25 PM

Item ID: 646.3011 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: RH Half  
 Start Date: 9/1/2015 Start Qty: 6.00 **\*6\*** Cust Item ID:  
 Required Date: 9/1/2015 Req'd Qty: 6.00 **\*6\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                                    | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp   |
|--------------------------------|-------------------------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|------------------|
| 150                            | Receive & Inspect for Damage & Mat'l Certs                  | 0.00                 |         |        | DEC 16 2015  |               |               |                  |                  |
| <b>*150*</b>                   |                                                             |                      |         |        |              |               |               |                  |                  |
| Packaging                      | Memo                                                        | 0.00                 |         |        |              |               |               |                  |                  |
| Packaging                      |                                                             |                      |         |        |              |               |               |                  |                  |
| 155                            | QC5- Inspect part completeness to step on W/O               | 0.00                 |         |        |              |               |               |                  | DAS<br>9<br>9-89 |
| <b>*155*</b>                   |                                                             |                      |         |        |              |               |               |                  |                  |
| QC                             | Memo                                                        | 0.00                 |         |        |              |               |               |                  |                  |
| Quality Control                |                                                             |                      |         |        |              |               |               |                  |                  |
| 180                            | Identify as per dwg & Stock Location <u>CK102</u>           | 0.00                 |         |        |              |               |               |                  |                  |
| <b>*180*</b>                   |                                                             |                      |         |        |              |               |               |                  |                  |
| Packaging                      | Memo                                                        | 0.00                 |         |        |              |               |               |                  |                  |
| Packaging                      | ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV*** |                      |         |        |              |               |               |                  |                  |
|                                |                                                             |                      |         |        |              |               |               |                  |                  |

⑥ 15-12-18

DEC 21 2015

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MRB (QS1042) Approval                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Completed By                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Lead hand / Supervisor Approval Verification                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment <input type="checkbox"/><br>Design <input type="checkbox"/><br>Doc/Data <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Pre <input type="checkbox"/><br>Material <input type="checkbox"/><br>Internal Transport <input type="checkbox"/><br>Tribal Knowledge <input type="checkbox"/><br>LOA <input type="checkbox"/><br>Substation <input type="checkbox"/><br>Past Expiry Date <input type="checkbox"/><br>Misidentified <input type="checkbox"/> | No Re-verification <input type="checkbox"/><br>Operator <input type="checkbox"/><br>Offset/Setup <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Training <input type="checkbox"/><br>Use for Testing <input type="checkbox"/><br>Poor Information <input type="checkbox"/><br>Rushing <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Past Due <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Centre Not Concentric <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave <input type="checkbox"/><br>Cuffs <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Heat Treat <input type="checkbox"/><br>Wave/Twist in Tube <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Temperature/Cure <input type="checkbox"/><br>Set-up <input type="checkbox"/><br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Inspection Incomplete/Unqualified <input type="checkbox"/><br>Contamination <input type="checkbox"/><br>Countersink <input type="checkbox"/><br>Cut Too Short <input type="checkbox"/><br>Instructions Incomplete/Unclear <input type="checkbox"/><br>Drill Holes <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set <input type="checkbox"/><br>Mislabelled <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Misaligned/off center <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/><br>Outside Dimensions <input type="checkbox"/><br>Over/Under tolerance <input type="checkbox"/><br>Part Incorrect <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Part Moved <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Misread <input type="checkbox"/><br>Turning Sequence <input type="checkbox"/> |
| OTHER : <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Work Order ID 136653****\*136653\***

Page 4

Wednesday, September 02, 2015 2:43:25 PM

Item ID: 646.3011

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: RH Half

Start Date: 9/1/2015

Start Qty: 6.00

**\*6\***

Cust Item ID:

Required Date: 9/1/2015

Req'd Qty: 6.00

**\*6\***

Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run

Start

**\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

**\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

**\*190\***

QC

Memo

0.00

Quality Control

MLJ

DEC 2 1 2015

MLJ DEC 2 1 2015

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                              |  |
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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                              |  |
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| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                    | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Completed By                                 |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                              |  |
| <b>Root Cause</b><br><div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">           Environment <input type="checkbox"/><br/>           Design <input type="checkbox"/><br/>           Doc/Data <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Pre <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Internal Transport <input type="checkbox"/><br/>           Tribal Knowledge <input type="checkbox"/><br/>           LOA <input type="checkbox"/><br/>           Substation <input type="checkbox"/><br/>           Past Expiry Date <input type="checkbox"/><br/>           Misidentified <input type="checkbox"/> </div> <div style="width: 50%;">           No Re-verification <input type="checkbox"/><br/>           Operator <input type="checkbox"/><br/>           Offset/Setup <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Training <input type="checkbox"/><br/>           Use for Testing <input type="checkbox"/><br/>           Poor Information <input type="checkbox"/><br/>           Rushing <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Past Due <input type="checkbox"/> </div> </div> |                                                                                                                                                                                    | <b>FAULT CATEGORY</b><br><div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;">           Pressure/Forced <input type="checkbox"/><br/>           Bending <input type="checkbox"/><br/>           Centre Not Concentric <input type="checkbox"/><br/>           Cracks <input type="checkbox"/><br/>           Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>           Cuffs <input type="checkbox"/><br/>           Crushing <input type="checkbox"/><br/>           Heat Treat <input type="checkbox"/><br/>           Wave/Twist in Tube <input type="checkbox"/><br/>           Marks/Chatter <input type="checkbox"/> </div> <div style="width: 33%;">           Temperature/Cure <input type="checkbox"/><br/>           Set-up <input type="checkbox"/><br/>           BOM/Route <input type="checkbox"/><br/>           Broken/Damage/Defect <input type="checkbox"/><br/>           Inspection Incomplete/Unqualified <input type="checkbox"/><br/>           Contamination <input type="checkbox"/><br/>           Countersink <input type="checkbox"/><br/>           Cut Too Short <input type="checkbox"/><br/>           Instructions Incomplete/Unclear <input type="checkbox"/><br/>           Drill Holes <input type="checkbox"/> </div> <div style="width: 33%;">           Power Loss/Surge <input type="checkbox"/><br/>           Folio/Program <input type="checkbox"/><br/>           Grain <input type="checkbox"/><br/>           Weld <input type="checkbox"/><br/>           Wrong Stock Pulled <input type="checkbox"/><br/>           Out of Sequence <input type="checkbox"/><br/>           Off-set <input type="checkbox"/><br/>           Misabeled <input type="checkbox"/><br/>           Fit/Function <input type="checkbox"/><br/>           Misaligned/off center <input type="checkbox"/> </div> <div style="width: 33%;">           Positioned Wrong <input type="checkbox"/><br/>           Outside Dimensions <input type="checkbox"/><br/>           Over/Under tolerance <input type="checkbox"/><br/>           Part Incorrect <input type="checkbox"/><br/>           Part Lost/Missing <input type="checkbox"/><br/>           Part Moved <input type="checkbox"/><br/>           Drawing <input type="checkbox"/><br/>           Finish <input type="checkbox"/><br/>           Misread <input type="checkbox"/><br/>           Turning Sequence <input type="checkbox"/> </div> </div> |  |                                              |  |
| OTHER : <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                              |  |



# Picklist Print

Wednesday, September 02, 2015 2:43:24 PM

Page 1

Work Order ID: 136653

**\*136653\***

Parent Item: 646.3011

**\*646.3011\***

Parent Item Name: RH Half

Start Date: 9/1/2015

Required Date: 9/1/2015

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A NEW ISSUE 13/01/14 JFS VERIFY BY: JLM

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued               | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|-----------------------------|----------------|--------|
| M7075T6B6.000X0.250             |                        | Purchased     | No          |                     |                  | 100             | f                  | 10.1370        | 0.809       | 5.109473     |                             |                |        |
| *M7075T6B6 000X0 250*           |                        |               |             |                     |                  |                 |                    |                | **          |              | <div>JFS<br/>15/12/12</div> |                |        |
| 7075-T6 BAR 6.000" X 0.250"     |                        |               |             |                     |                  |                 |                    |                |             |              |                             |                |        |

Location

Loc Qty

Loc Code

MAT005

10.137

M131259

6.637

M132458

3.5

*M133426*

*4,85'*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

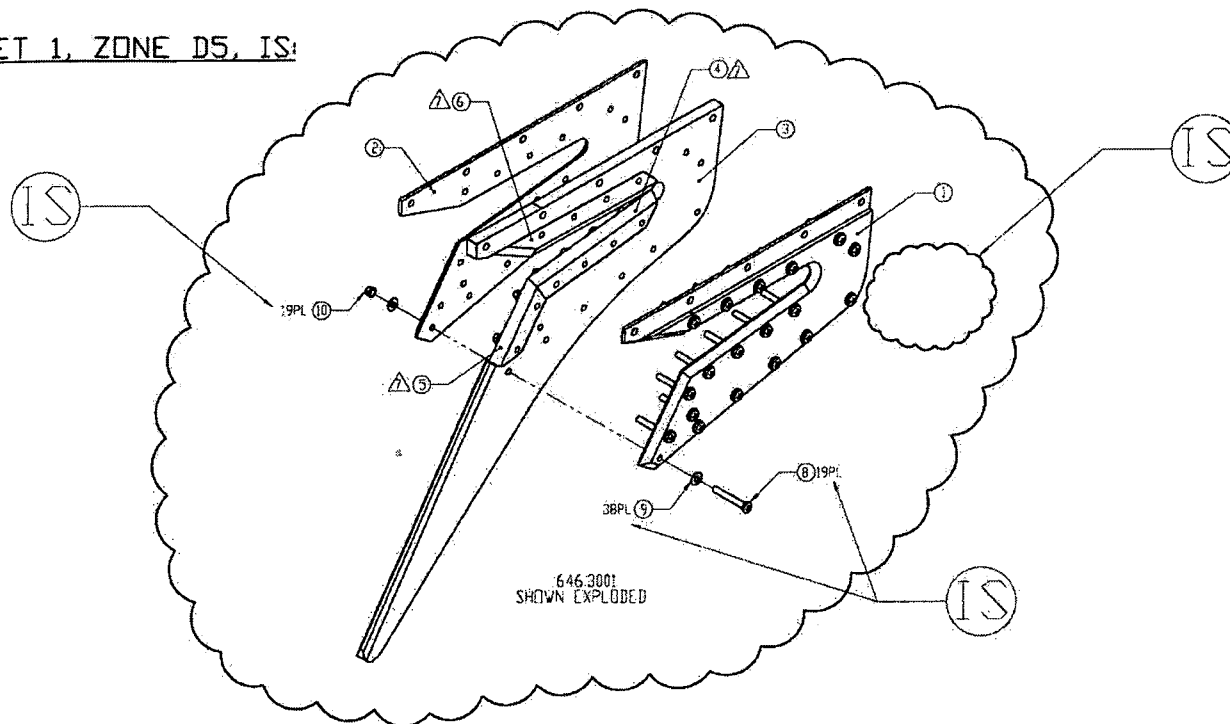
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |  |
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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |  |
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| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                       |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | QC / QA Coordinator Approval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  |
| <b>Root Cause</b><br><div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;">           Environment <input type="checkbox"/><br/>           Design <input type="checkbox"/><br/>           Doc/Data <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Pre <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Internal Transport <input type="checkbox"/><br/>           Tribal Knowledge <input type="checkbox"/><br/>           LOA <input type="checkbox"/><br/>           Substation <input type="checkbox"/><br/>           Past Expiry Date <input type="checkbox"/><br/>           Misidentified <input type="checkbox"/> </div> <div style="width: 33%;">           No Re-verification <input type="checkbox"/><br/>           Operator <input type="checkbox"/><br/>           Offset/Setup <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Training <input type="checkbox"/><br/>           Use for Testing <input type="checkbox"/><br/>           Poor Information <input type="checkbox"/><br/>           Rushing <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Past Due <input type="checkbox"/> </div> <div style="width: 33%;">           Pressure/Forced <input type="checkbox"/><br/>           Bending <input type="checkbox"/><br/>           Centre Not Concentric <input type="checkbox"/><br/>           Cracks <input type="checkbox"/><br/>           Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>           Cuffs <input type="checkbox"/><br/>           Crushing <input type="checkbox"/><br/>           Heat Treat <input type="checkbox"/><br/>           Wave/Twist in Tube <input type="checkbox"/><br/>           Marks/Chatter <input type="checkbox"/> </div> </div> |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>FAULT CATEGORY</b><br><div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;">           Temperature/Cure <input type="checkbox"/><br/>           Set-up <input type="checkbox"/><br/>           BOM/Route <input type="checkbox"/><br/>           Broken/Damage/Defect <input type="checkbox"/><br/>           Inspection Incomplete/Unqualified <input type="checkbox"/><br/>           Contamination <input type="checkbox"/><br/>           Countersink <input type="checkbox"/><br/>           Cut Too Short <input type="checkbox"/><br/>           Instructions Incomplete/Unclear <input type="checkbox"/><br/>           Drill Holes <input type="checkbox"/> </div> <div style="width: 33%;">           Power Loss/Surge <input type="checkbox"/><br/>           Folio/Program <input type="checkbox"/><br/>           Grain <input type="checkbox"/><br/>           Weld <input type="checkbox"/><br/>           Wrong Stock Pulled <input type="checkbox"/><br/>           Out of Sequence <input type="checkbox"/><br/>           Off-set <input type="checkbox"/><br/>           Mislabeled <input type="checkbox"/><br/>           Fit/Function <input type="checkbox"/><br/>           Misaligned/off center <input type="checkbox"/> </div> <div style="width: 33%;">           Positioned Wrong <input type="checkbox"/><br/>           Outside Dimensions <input type="checkbox"/><br/>           Over/Under tolerance <input type="checkbox"/><br/>           Part Incorrect <input type="checkbox"/><br/>           Part Lost/Missing <input type="checkbox"/><br/>           Part Moved <input type="checkbox"/><br/>           Drawing <input type="checkbox"/><br/>           Finish <input type="checkbox"/><br/>           Misread <input type="checkbox"/><br/>           Turning Sequence <input type="checkbox"/> </div> </div> |                       |  |
| OTHER :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |  |



APICAL  
INDUSTRIES, INC.

|                                                               |                         |                        |                       |                |                                                                                           |
|---------------------------------------------------------------|-------------------------|------------------------|-----------------------|----------------|-------------------------------------------------------------------------------------------|
| ENGINEERING CHANGE NOTICE NO.                                 |                         | 02195                  |                       | SHEET 1 OF 4   |                                                                                           |
| DWG NO.                                                       | 646.3000                | REV: N/C               | PREPARED BY S. HUFF   | DATE: 01/05/09 | EFFECT ON DWG<br><input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC. |
| DWG TITLE: LOWER CUTTER ASSY                                  |                         |                        |                       |                |                                                                                           |
| APPROVED BY:                                                  | ENGR <i>[Signature]</i> | MFR <i>[Signature]</i> | QC <i>[Signature]</i> | EFF:           | NEXT ORDER                                                                                |
| REASON: REMOVED RIVETS IN FAVOR OF ADDITIONAL SCREWS          |                         |                        |                       |                |                                                                                           |
| TRANSACTION CODES (TC)<br>A-ADD C-CREATE<br>R-REVISE D-DELETE |                         |                        |                       |                |                                                                                           |

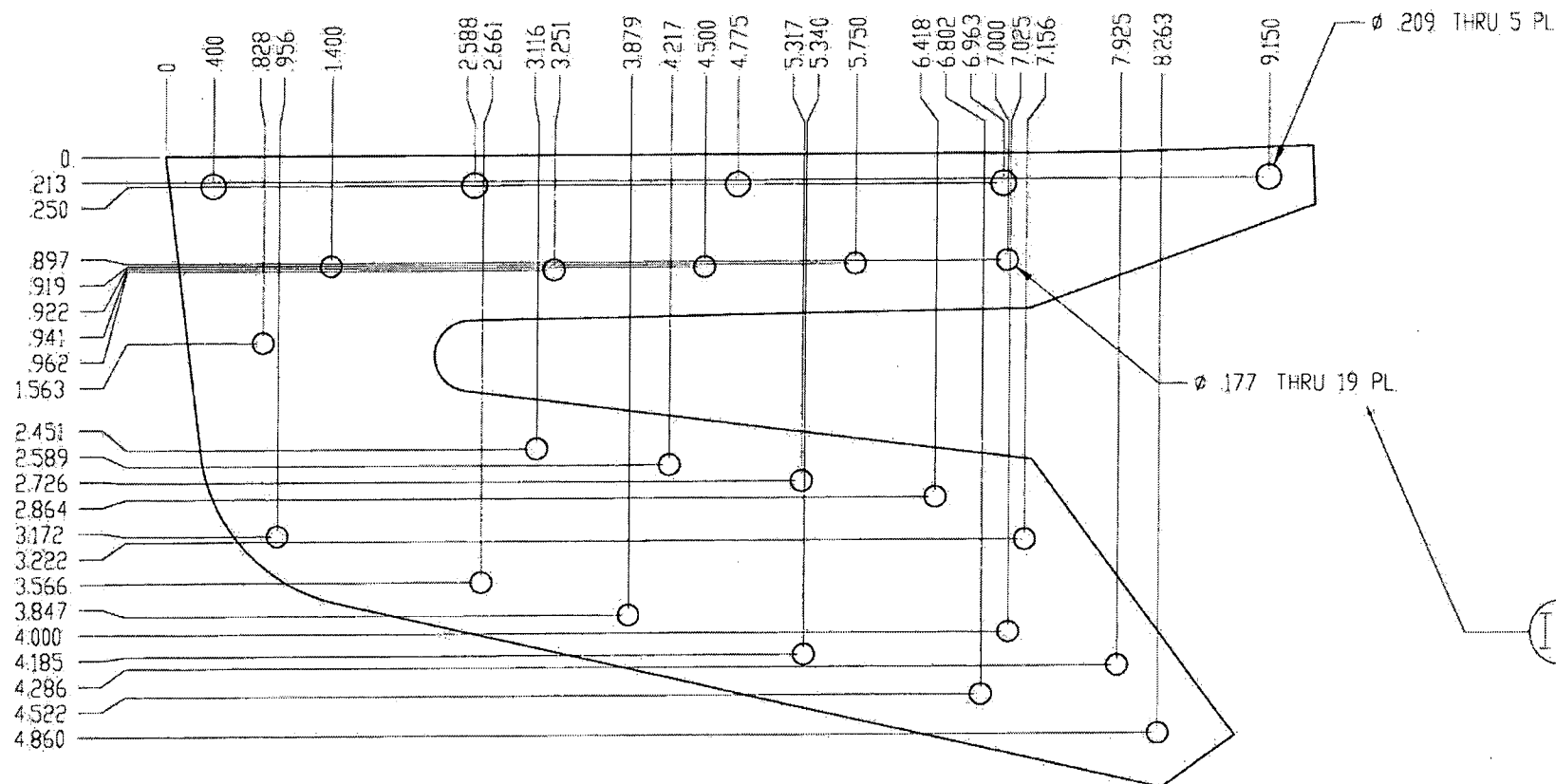
SHEET 1, ZONE D5, IS:



STOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 136653.MLS  
15-09-08

| 10                  | R  | 601.1541    | 19   | LOCKNUT                                                                                                                                                                                      | MS21042L08                                                                                  |
|---------------------|----|-------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| 9                   | R  | 601.2764    | 38   | WASHER                                                                                                                                                                                       | NAS1149FN832P                                                                               |
| 8                   | R  | 601.2765    | 19   | SCREW                                                                                                                                                                                        | MS27039-0819                                                                                |
| 7                   | D  | 601.2766    | 2    | RIVET                                                                                                                                                                                        | MS20470AD5-18                                                                               |
|                     |    |             | 3001 |                                                                                                                                                                                              |                                                                                             |
| F/N                 | TC | PART NUMBER | QTY  | DESCRIPTION                                                                                                                                                                                  | MATERIAL/SPECIFICATION                                                                      |
| DOCUMENTS EFFECTED: |    |             |      | <input type="checkbox"/> MDL <input checked="" type="checkbox"/> INSTALL INSTRU <input checked="" type="checkbox"/> ICA <input type="checkbox"/> FMS <input checked="" type="checkbox"/> BOM | CHANGE CATEGORY<br><input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR |
|                     |    |             |      | DER REVIEW REQUIRED<br><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO                                                                                                   |                                                                                             |

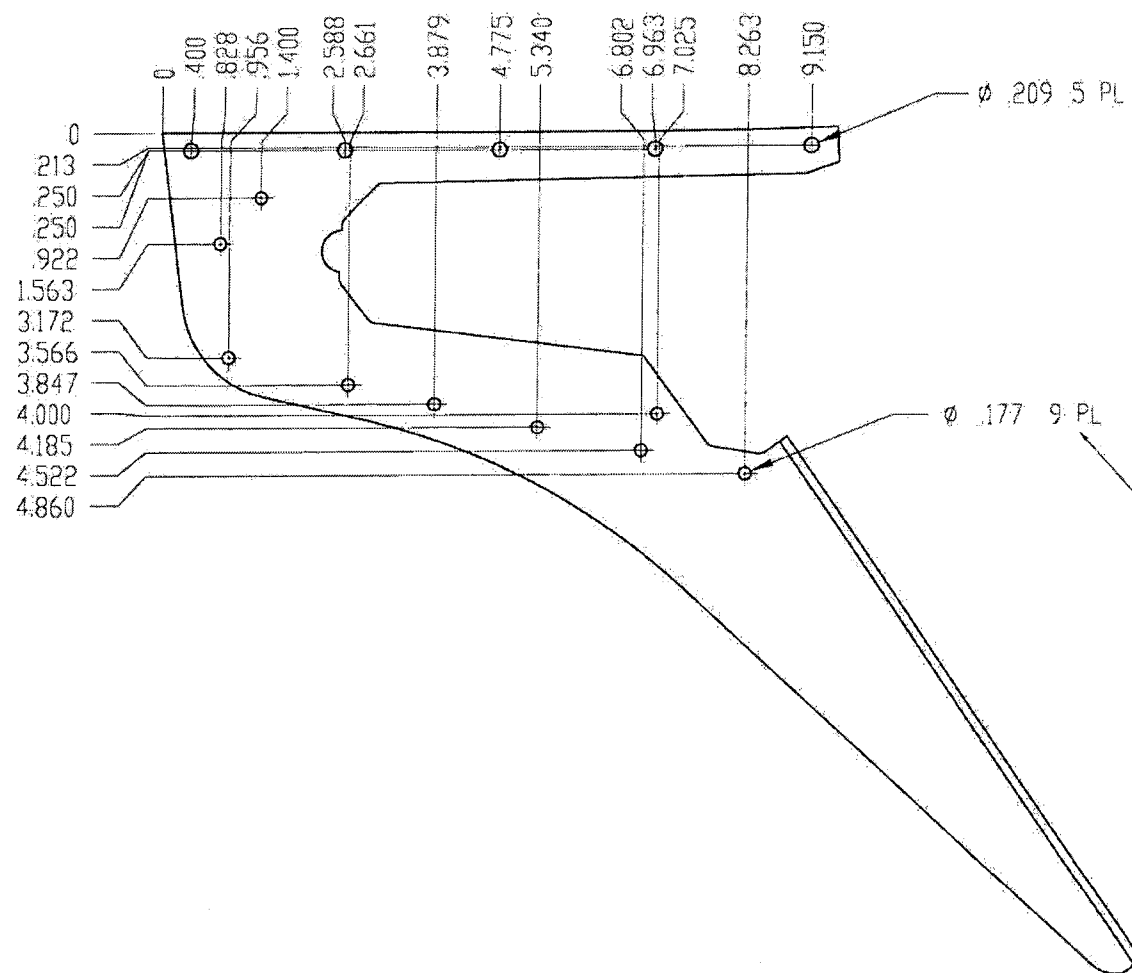
SHEET 3 IS:



SECTION A-A

| F/N | TC | PART NUMBER | QTY | DESCRIPTION | MATERIAL/SPECIFICATION |
|-----|----|-------------|-----|-------------|------------------------|
|     |    |             |     |             |                        |

SHEET 5 IS:



SECTION F-F



| F/N | TC | PART NUMBER | QTY | DESCRIPTION | MATERIAL/SPECIFICATION |
|-----|----|-------------|-----|-------------|------------------------|
|     |    |             |     |             |                        |

Technical drawing of a mechanical part, likely a bracket or plate, showing dimensions and tolerances. The part is rectangular with a slanted top edge. Key dimensions include:

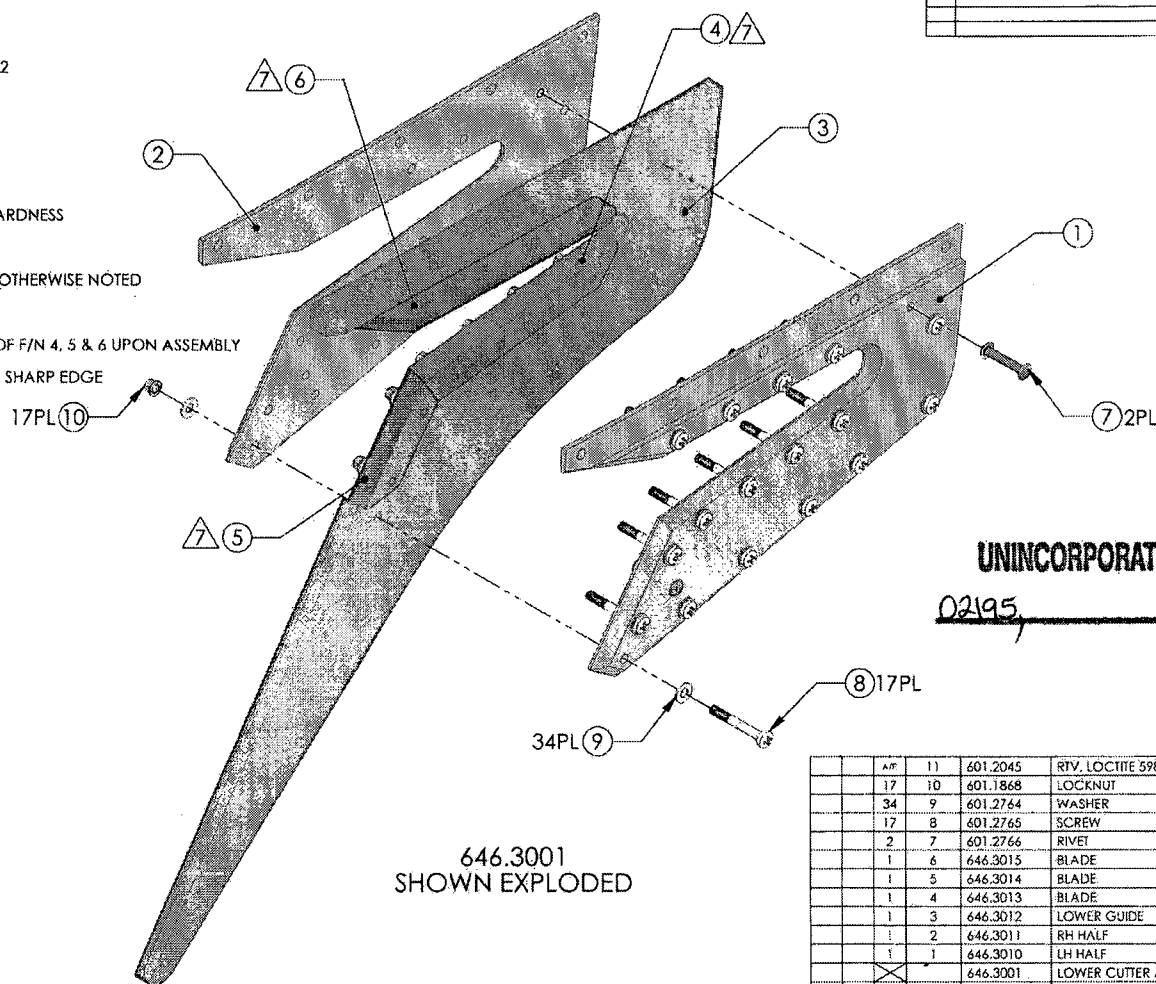
- Overall width: 4.80
- Overall height: 94
- Slant angle:  $66.5^\circ$
- Right side angle:  $45.0^\circ$
- Top edge thickness:  $.240 \pm .002$
- Distance from top edge to centerline:  $.576$
- Distance from centerline to right edge:  $.524$
- Distance from left edge to centerline:  $1.109 \pm .002$
- Distance from centerline to right edge:  $6.35 \pm .002$
- Distance from left edge to right edge:  $4.396$
- Left edge thickness:  $\varnothing .177$  4 PL
- Right edge thickness: R.125 2 PL
- Feature label: IS

| F/N | TC | PART NUMBER | QTY | DESCRIPTION | MATERIAL/SPECIFICATION |
|-----|----|-------------|-----|-------------|------------------------|
|     |    |             |     |             |                        |

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# NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N
- 3 MATERIAL: AISI A2 TOOL STEEL  
CONDITION: ANNEALED  
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N
- 5 DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
- 6 IDENTIFY IAW MPP-120
- 7 APPLY F/N 11 AS REQUIRED TO ALL MATING SURFACES OF F/N 4, 5 & 6 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP. DO NOT BREAK SHARP EDGE



UNINCORPORATED ECN(s)

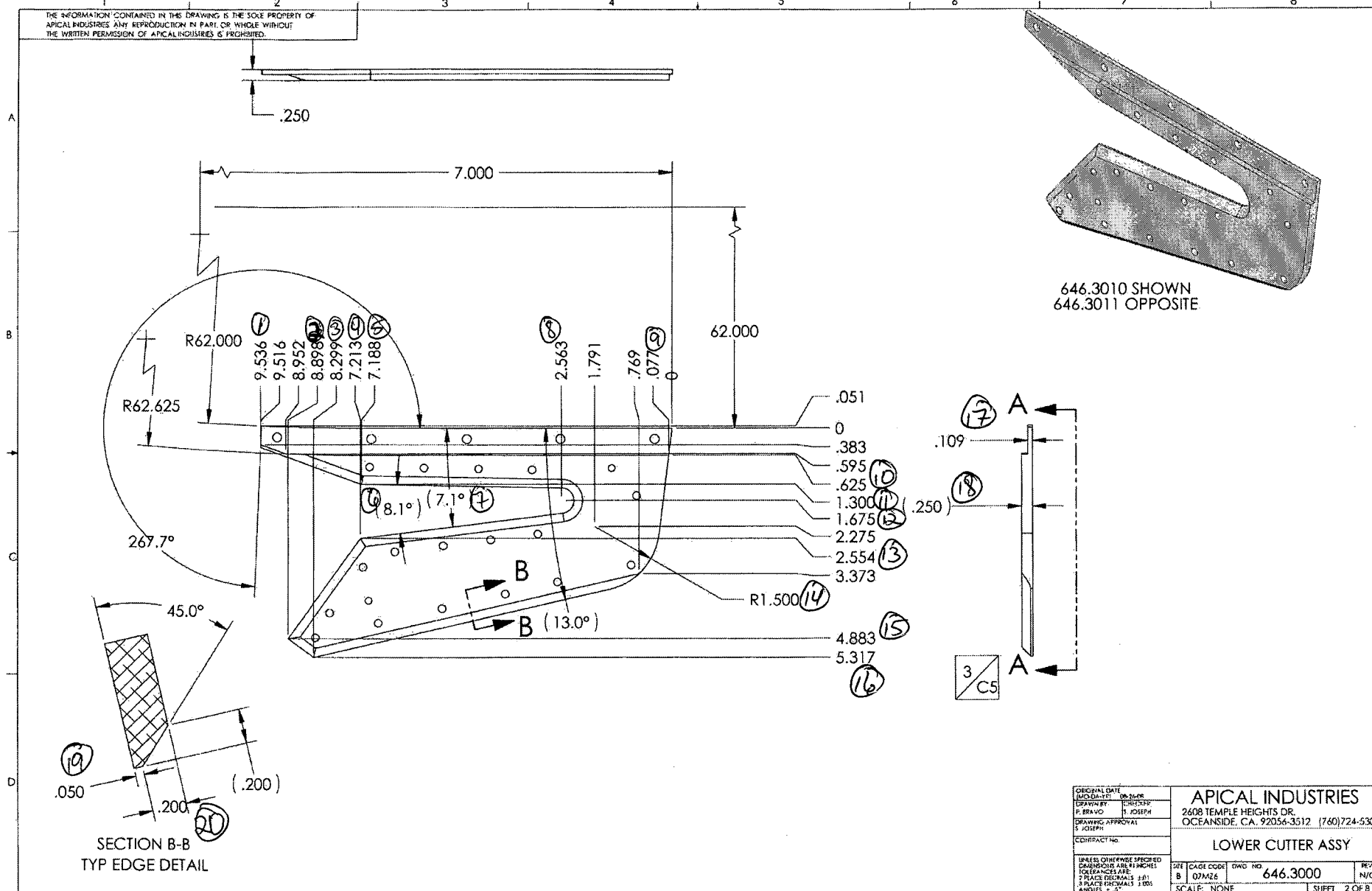
02195

646.3001  
SHOWN EXPLODED

| QTY                                                                                                                                                                                                                                                                                                                                                                                                                                                   | REV | DESCRIPTION                | MATL           | SPEC. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------|----------------|-------|
| 17                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 11  | 601.2045 RTV, LOCITE 598   |                |       |
| 17                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10  | 601.1868 LOCKNUT           | MS21043-08     |       |
| 34                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 9   | 601.2764 WASHER            | MS1149FANBSP   |       |
| 17                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 8   | 601.2765 SCREW             | MS27039-0819   |       |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 7   | 601.2766 RIVET             | MS204070ADA-11 |       |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 6   | 646.3015 BLADE             |                |       |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5   | 646.3014 BLADE             |                |       |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4   | 646.3013 BLADE             |                |       |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3   | 646.3012 LOWER GUIDE       |                |       |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2   | 646.3011 RH HALF           |                |       |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1   | 646.3010 LH HALF           |                |       |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     | 646.3001 LOWER CUTTER ASSY |                |       |
| QTY                                                                                                                                                                                                                                                                                                                                                                                                                                                   | REV | DESCRIPTION                | MATL           | SPEC. |
| 646.4000                                                                                                                                                                                                                                                                                                                                                                                                                                              |     | 646.4000                   |                |       |
| <div> <div> <p>ORIGINAL DATE: 06-29-08<br/>DRAWN BY: J. HERRIN<br/>P. HANLEY<br/>DATE OF APPROVAL: 06-26-08<br/>CONTRACT NO.</p> </div> <div> <p>UNLESS OTHERWISE SPECIFIED<br/>DIMENSIONS ARE IN INCHES<br/>TOLERANCES ARE:<br/>2 PLACE DECIMALS ± .01<br/>ANGLES ± .5°</p> </div> </div> <div> <p>APICAL INDUSTRIES<br/>2608 TEMPLE HEIGHTS DR.<br/>OCEANSIDE, CA. 92056-3512 (760)724-5300</p> <p>LOWER CUTTER ASSY</p> <p>SHEET 1 OF 8</p> </div> |     |                            |                |       |

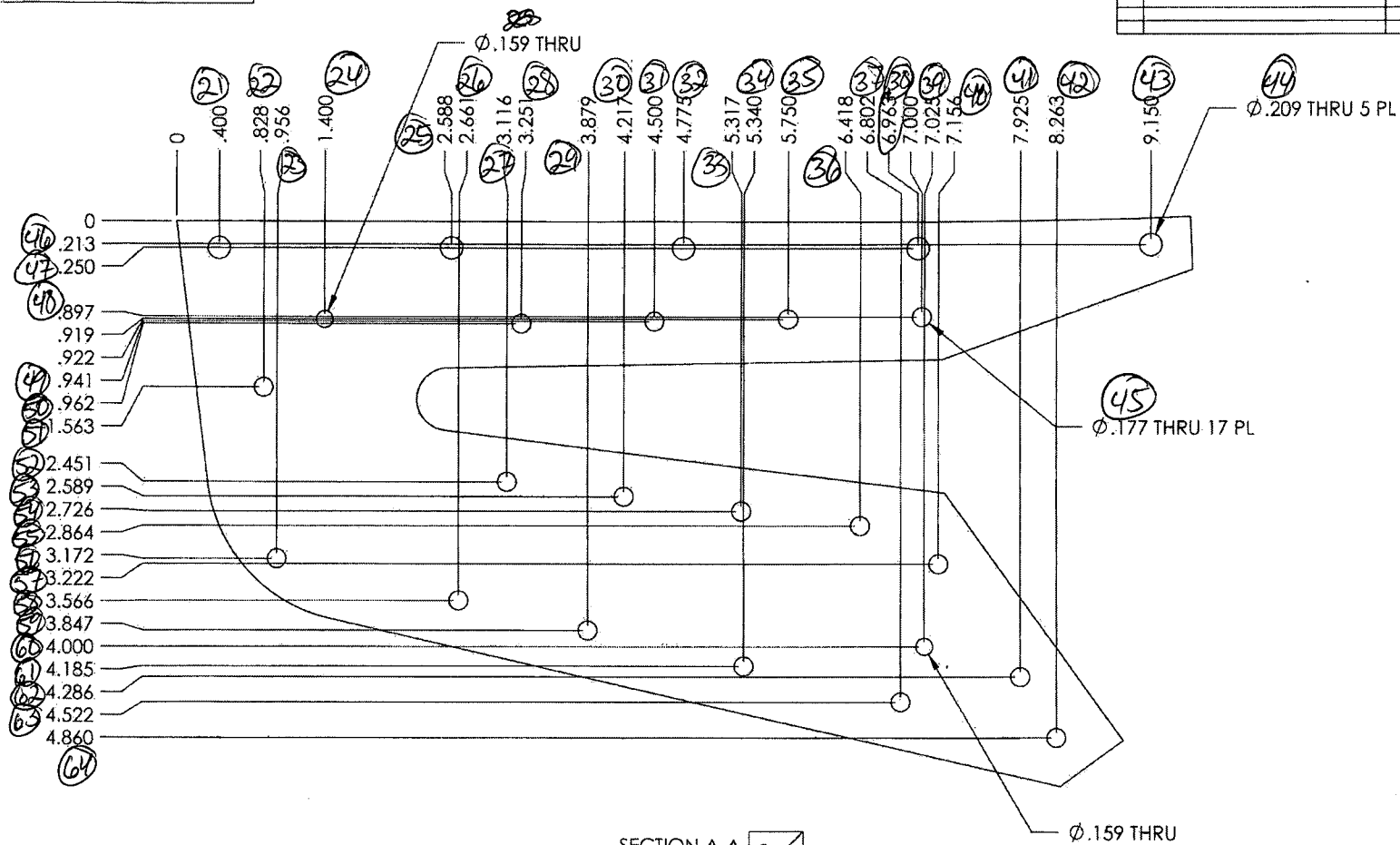


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| REVISIONS |             |      |          |
|-----------|-------------|------|----------|
| REV.      | DESCRIPTION | DATE | APPROVED |
|           |             |      |          |
|           |             |      |          |

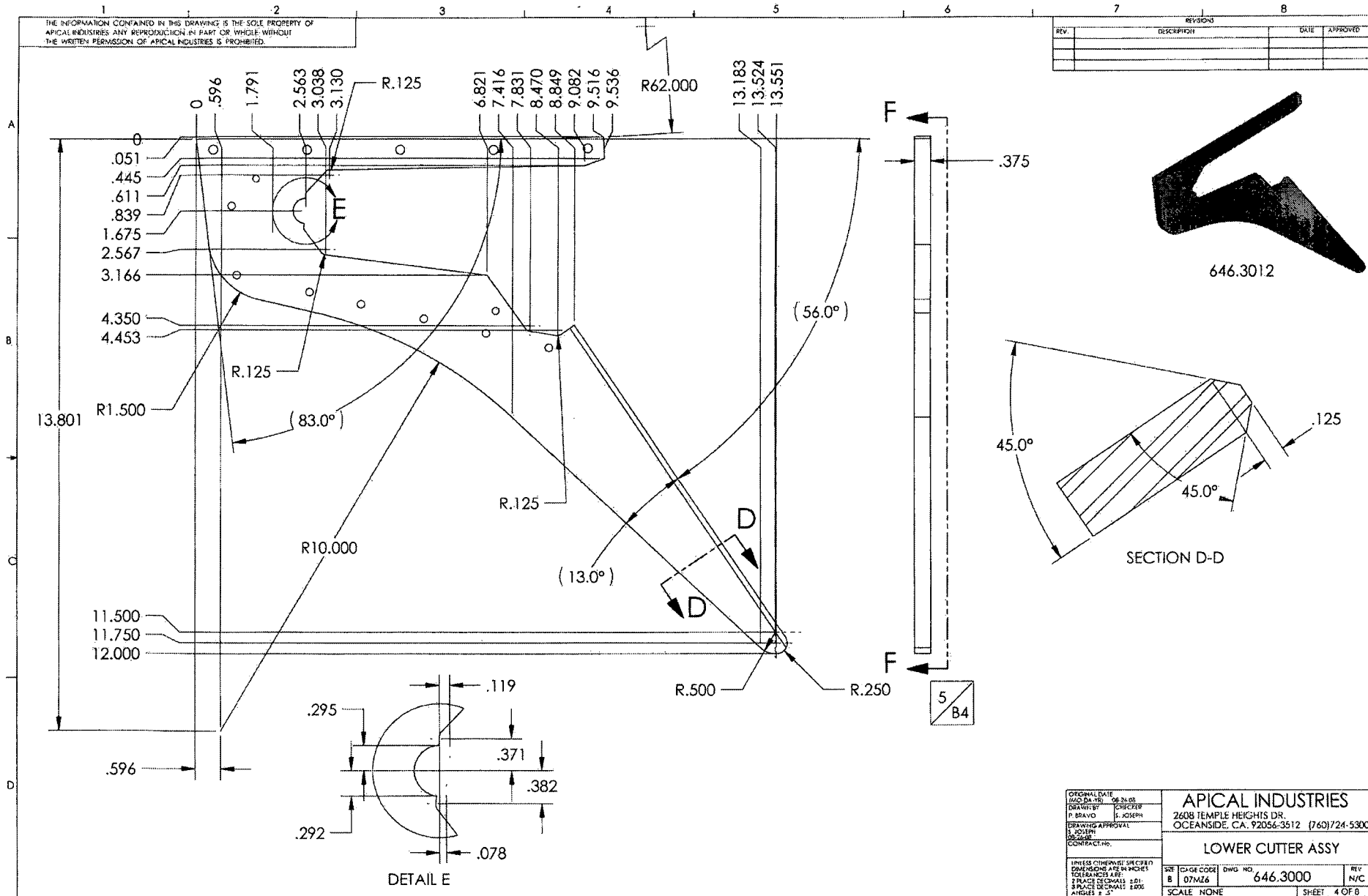


SECTION A-A 2  
C7

|                                                                                                                                              |  |                                         |          |
|----------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------|----------|
| ORIGINAL DATE: 08-26-06                                                                                                                      |  | APICAL INDUSTRIES                       |          |
| DRAWN BY: P. BRAVO                                                                                                                           |  | 2608 TEMPLE HEIGHTS DR.                 |          |
| CHECKED BY: S. JOSEPH                                                                                                                        |  | OCEANSIDE, CA. 92056-3512 (760)724-5300 |          |
| DRAWING APPROVAL: S. JOSEPH                                                                                                                  |  | LOWER CUTTER ASSY                       |          |
| COUNTRY NO.                                                                                                                                  |  | REV. N/C                                |          |
| UNLESS OTHERWISE SPECIFIED:<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>3 PLACE DECIMALS ±.01<br>2 PLACE DECIMALS ±.005<br>ANGLES ±.5° |  | QRE (CAUTION) QWD NO. 646.3000          | REV. N/C |
| SCALE: NONE                                                                                                                                  |  | SHEET 3 OF 8                            |          |

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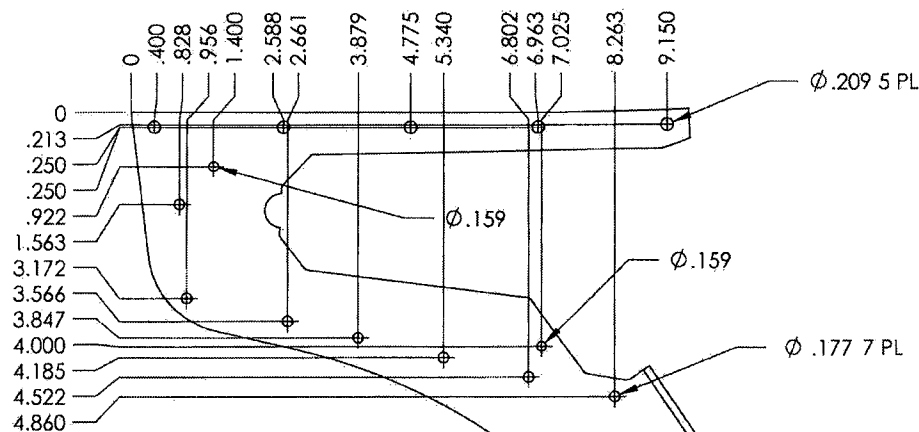
| REVISIONS |             |      |          |
|-----------|-------------|------|----------|
| REV.      | DESCRIPTION | DATE | APPROVED |
|           |             |      |          |
|           |             |      |          |



|                                                                                                                                             |  |                                                                    |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------|-----------------|
| ORIGINAL DATE<br>1980-04-15                                                                                                                 |  | APICAL INDUSTRIES                                                  |                 |
| DRAWN BY<br>P. BRAVO                                                                                                                        |  | 2608 TEMPLE HEIGHTS DR.<br>OCEANSIDE, CA. 92056-3512 (760)724-5300 |                 |
| CHECKED BY<br>S. JOSEPH                                                                                                                     |  | LOWER CUTTER ASSY                                                  |                 |
| DRAWING APPROVAL<br>S. JOSEPH                                                                                                               |  | SIZE<br>B                                                          | REV<br>N/C      |
| CONTRACT NO.                                                                                                                                |  | DWG. NO.<br>07MZ6                                                  | 646.3000        |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>3 PLACE DECIMALS ±.01<br>2 PLACE DECIMALS ±.005<br>ANGLES ±.5° |  | SCALE<br>NONE                                                      | SHEET<br>4 OF 8 |

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| REVISIONS |             |      |          |
|-----------|-------------|------|----------|
| REV.      | DESCRIPTION | DATE | APPROVED |
|           |             |      |          |
|           |             |      |          |

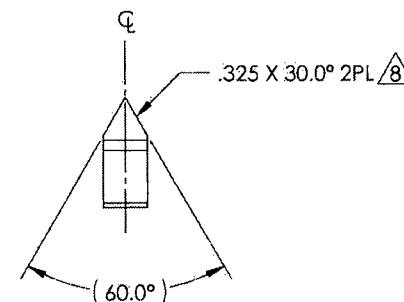
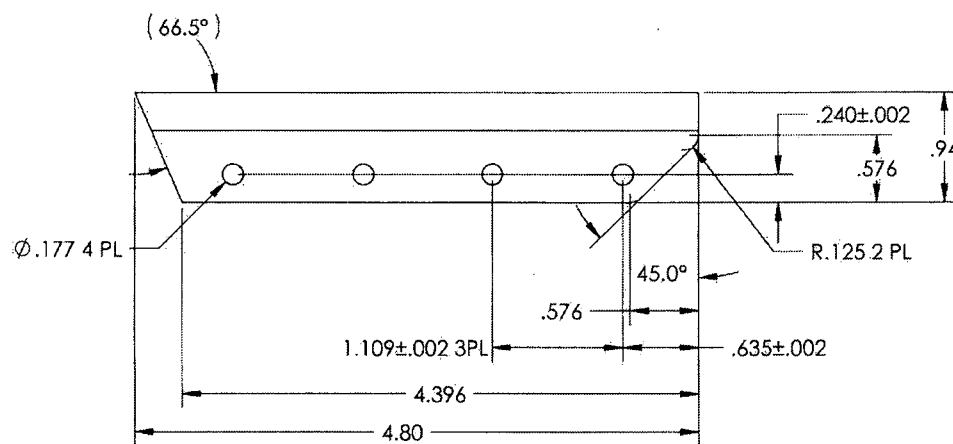
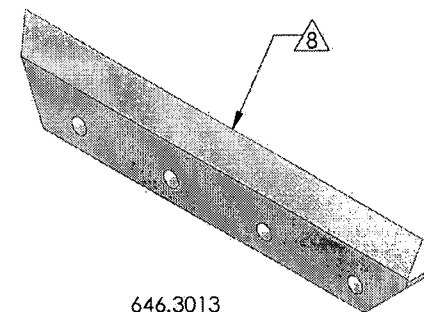
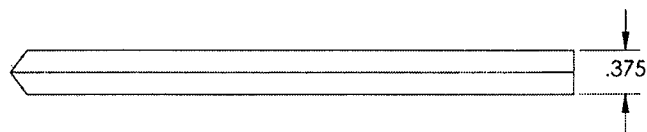


SECTION F-F 4  
B6

|                                                                                                                                             |                 |                                                                    |          |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------|----------|
| ORIGINAL DATE<br>10/20/08                                                                                                                   |                 | APICAL INDUSTRIES                                                  |          |
| DRAWN BY<br>P. BRAYD                                                                                                                        |                 | 2608 TEMPLE HEIGHTS DR.<br>OCEANSIDE, CA. 92056-3512 (760)724-5300 |          |
| CHECKED BY<br>D. JOSEPH                                                                                                                     |                 | LOWER CUTTER ASSY                                                  |          |
| DRAWING APPROVAL<br>BY<br>DATE                                                                                                              |                 | SCALE NONE                                                         |          |
| CONTRACT NO.                                                                                                                                |                 | SHEET 5 OF 8                                                       |          |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ±.01<br>3 PLACE DECIMALS ±.005<br>ANGLES ±.5° |                 | REV. N/C                                                           | REV. N/C |
| REV. B                                                                                                                                      | CAGE CODE 07M16 | DWG. NO. 646.3000                                                  | REV. N/C |

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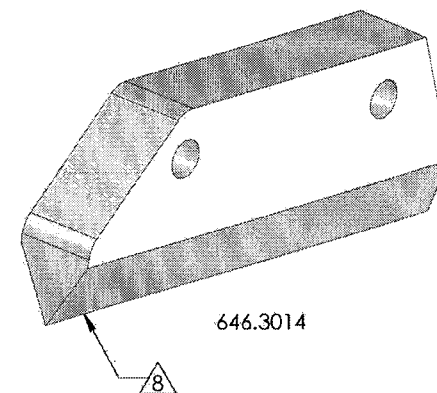
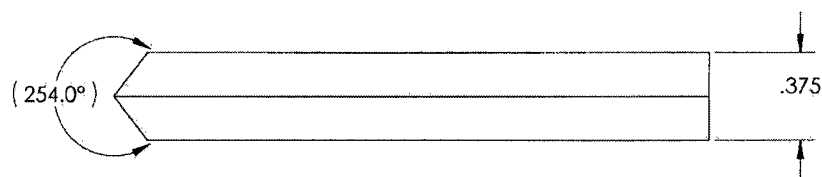
| REVISIONS |             |      |          |
|-----------|-------------|------|----------|
| REV       | DESCRIPTION | DATE | APPROVED |
|           |             |      |          |
|           |             |      |          |



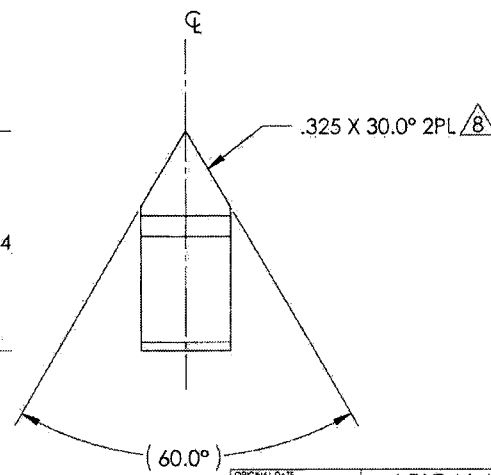
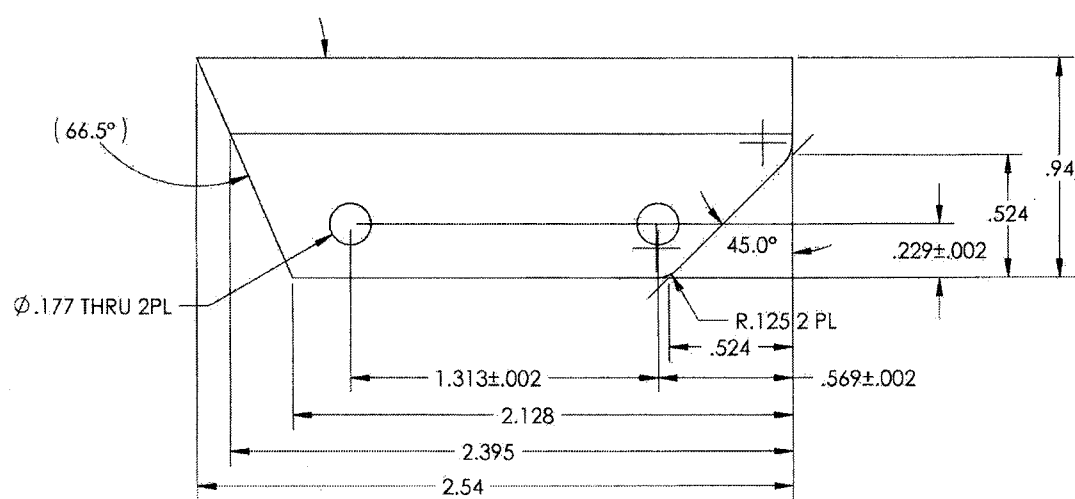
|                                                                                                                                             |                      |                                                                     |            |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------|------------|
| GENERAL DATE<br>10-24-83                                                                                                                    |                      | APICAL INDUSTRIES                                                   |            |
| DRAWN BY<br>F. BRAYO                                                                                                                        | CHECKED<br>J. JOSEPH | 2608 TEMPLE HEIGHTS DR.<br>OCEANSIDE, CA. 92056-3512 (760) 724-5300 |            |
| DRAWING APPROVAL<br>DATE<br>CONTRACT NO.                                                                                                    |                      | LOWER CUTTER ASSY                                                   |            |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ±.01<br>3 PLACE DECIMALS ±.005<br>ANGLES ±.5° |                      | SHEET<br>B                                                          | REV<br>N/C |
| CAGE CODE<br>07M16                                                                                                                          |                      | DATE<br>07/16                                                       | 646.3000   |
| SCALE<br>NONE                                                                                                                               |                      | SHEET 4 OF 8                                                        |            |

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| REVISIONS |             |      |          |
|-----------|-------------|------|----------|
| REV.      | DESCRIPTION | DATE | APPROVED |
|           |             |      |          |
|           |             |      |          |



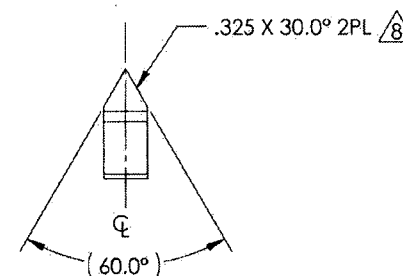
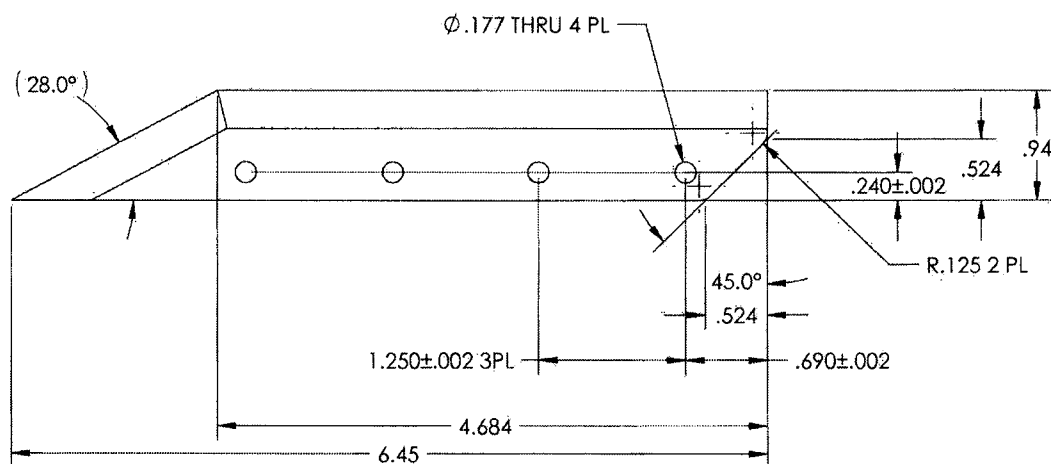
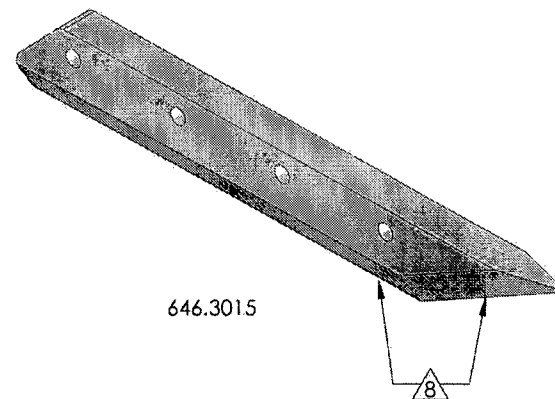
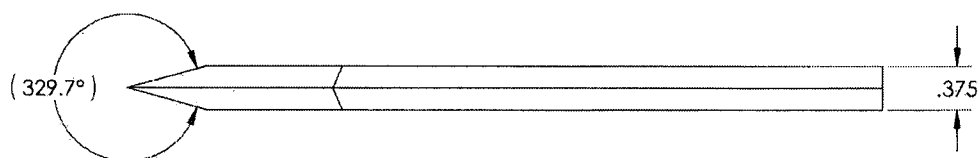
646.3014



|                                                                                                                    |  |                                          |          |
|--------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|----------|
| ORIGINAL DATE<br>10/24/08                                                                                          |  | APICAL INDUSTRIES                        |          |
| DRAWN BY<br>P. PAVO                                                                                                |  | 2608 TEMPLE HEIGHTS DR.                  |          |
| CHECKED BY<br>D. JOSEPH                                                                                            |  | OCEANSIDE, CA. 92056-3512 (760) 724-5300 |          |
| DRAWING APPROVAL<br>D. JOSEPH                                                                                      |  | LOWER CUTTER ASSY                        |          |
| CONTRACT NO.                                                                                                       |  | 646.3000                                 |          |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>3 PLACE DECIMALS ±.001<br>ANGLES ±.5° |  | REV. CA OR CODE<br>B D7M16               | REV. N/C |
| SCALE: NONE                                                                                                        |  | SHEET 7 OF 8                             |          |

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| REV#001 |             |      |          |
|---------|-------------|------|----------|
| REV.    | DESCRIPTION | DATE | APPROVED |
|         |             |      |          |
|         |             |      |          |



|                                                                                                                                              |  |                                         |     |
|----------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------|-----|
| ORIGINAL DATE<br>10/25/98                                                                                                                    |  | APICAL INDUSTRIES                       |     |
| DRAWN BY<br>P. PAVO                                                                                                                          |  | 2608 TEMPLE HEIGHTS DR.                 |     |
| CHECKED BY<br>B. JOSEPH                                                                                                                      |  | OCEANSIDE, CA. 92056-3512 (760)724-5300 |     |
| DRAWING APPROVAL<br>D. JOSEPH                                                                                                                |  | LOWER CUTTER ASSY                       |     |
| CONTRACT NO.                                                                                                                                 |  |                                         |     |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ±.01<br>3 PLACE DECIMALS ±.005<br>ANGLES = .5° |  | REV. 8                                  | N/C |
| CAGE CODE 07M16                                                                                                                              |  | DWG. NO. 646.3000                       |     |
| SCALE NONE                                                                                                                                   |  | SHEET 8 OF 8                            |     |



|                                 |                                    |                              |
|---------------------------------|------------------------------------|------------------------------|
| <b>Part Number:</b><br>646.3011 | <b>Rev:</b><br>N/C                 | <b>- Page 1 -</b>            |
| <b>Description:</b><br>RH HALF  | <b>Inspection Dwg:</b><br>646.3000 | <b>Work Order:</b><br>136653 |

| Item Ref. | Nominal | Tolerance       | No. Piece_1<br>Actual | No. Piece_2<br>Actual | No. Piece_3<br>Actual | No. Piece_4<br>Actual |  |
|-----------|---------|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|--|
| 1         | 9.5360  | +0.0050/-0.0050 | 9.5359                | 9.5362                | 9.5359                | 9.5364                |  |
| 2         | 8.8980  | +0.0050/-0.0050 | 8.8990                | 8.8997                | 8.8991                | 8.9002                |  |
| 3         | 8.2990  | +0.0050/-0.0050 | 8.2990                | 8.2998                | 8.2991                | 8.3001                |  |
| 4         | 7.2130  | +0.0050/-0.0050 | 7.2134                | 7.2138                | 7.2132                | 7.2139                |  |
| 5         | 7.1880  | +0.0050/-0.0050 | 7.1879                | 7.1879                | 7.1879                | 7.1881                |  |
| 6         | 8.1000  | +0.5000/-0.5000 | 8.1091                | 8.0963                | 8.1027                | 8.0996                |  |
| 7         | 7.1000  | +0.5000/-0.5000 | 7.1153                | 7.1079                | 7.1103                | 7.1077                |  |
| 8         | 2.5630  | +0.0050/-0.0050 | 2.5630                | 2.5635                | 2.5632                | 2.5637                |  |
| 9         | 0.0770  | +0.0050/-0.0050 | 0.0770                | 0.0771                | 0.0766                | 0.0770                |  |
| 10        | 0.6250  | +0.0050/-0.0050 | 0.6246                | 0.6234                | 0.6205                | 0.6231                |  |
| 11        | 1.3000  | +0.0050/-0.0050 | 1.3006                | 1.3008                | 1.3007                | 1.3007                |  |
| 12        | 1.6750  | +0.0050/-0.0050 | 1.6754                | 1.6752                | 1.6753                | 1.6754                |  |
| 13        | 2.5540  | +0.0050/-0.0050 | 2.5524                | 2.5516                | 2.5520                | 2.5517                |  |
| 14        | 1.5000  | +0.0050/-0.0050 | 1.5006                | 1.5009                | 1.5011                | 1.5005                |  |
| 15        | 4.8830  | +0.0050/-0.0050 | 4.8822                | 4.8813                | 4.8818                | 4.8813                |  |
| 16        | 5.3170  | +0.0050/-0.0050 | 5.3161                | 5.3152                | 5.3158                | 5.3156                |  |
| D17       | 0.1090  | +0.0050/-0.0050 | 0.1112                | 0.1062                | 0.1113                | 0.1102                |  |
| D18       | 0.2500  | +0.0050/-0.0050 | 0.2486                | 0.2490                | 0.2488                | 0.2488                |  |
| D19       | 0.0500  | +0.0050/-0.0050 | 0.0500                | 0.0500                | 0.0500                | 0.0500                |  |
| D20       | 0.2000  | +0.0050/-0.0050 | 0.2000                | 0.2000                | 0.2000                | 0.2000                |  |
| 21        | 0.4000  | +0.0050/-0.0050 | 0.4044                | 0.4047                | 0.4050                | 0.4050                |  |
| 22        | 0.8280  | +0.0050/-0.0050 | 0.8322                | 0.8319                | 0.8322                | 0.8326                |  |
| 23        | 0.9560  | +0.0050/-0.0050 | 0.9589                | 0.9592                | 0.9591                | 0.9597                |  |
| 24        | 1.4000  | +0.0050/-0.0050 | 1.4041                | 1.4041                | 1.4042                | 1.4045                |  |
| 25        | 2.5880  | +0.0050/-0.0050 | 2.5914                | 2.5912                | 2.5925                | 2.5919                |  |
| 26        | 2.6610  | +0.0050/-0.0050 | 2.6635                | 2.6642                | 2.6634                | 2.6641                |  |
| 27        | 3.1160  | +0.0050/-0.0050 | 3.1191                | 3.1197                | 3.1192                | 3.1194                |  |
| 28        | 3.2510  | +0.0050/-0.0050 | 3.2546                | 3.2543                | 3.2548                | 3.2545                |  |
| 29        | 3.8790  | +0.0050/-0.0050 | 3.8811                | 3.8822                | 3.8815                | 3.8815                |  |
| 30        | 4.2170  | +0.0050/-0.0050 | 4.2193                | 4.2200                | 4.2196                | 4.2201                |  |
| 31        | 4.5000  | +0.0050/-0.0050 | 4.5040                | 4.5042                | 4.5044                | 4.5040                |  |

**Measured by:**  
Mathieu Lamarche

**Date:**  
2015-12-10

**Audited by:**

DAS  
44  
9-89

15/12/10

**Date:**





|                                 |                                    |                              |
|---------------------------------|------------------------------------|------------------------------|
| <b>Part Number:</b><br>646.3011 | <b>Rev:</b><br>N/C                 | <b>- Page 2 -</b>            |
| <b>Description:</b><br>RH HALF  | <b>Inspection Dwg:</b><br>646.3000 | <b>Work Order:</b><br>136653 |

| Item Ref. | Nominal | Tolerance       | No. Piece_1<br>Actual | No. Piece_2<br>Actual | No. Piece_3<br>Actual | No. Piece_4<br>Actual |  |
|-----------|---------|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|--|
| 32        | 4.7750  | +0.0050/-0.0050 | 4.7793                | 4.7788                | 4.7791                | 4.7797                |  |
| 33        | 5.3170  | +0.0050/-0.0050 | 5.3199                | 5.3208                | 5.3204                | 5.3207                |  |
| 34        | 5.3400  | +0.0050/-0.0050 | 5.3426                | 5.3435                | 5.3429                | 5.3436                |  |
| 35        | 5.7500  | +0.0050/-0.0050 | 5.7539                | 5.7537                | 5.7540                | 5.7539                |  |
| 36        | 6.4180  | +0.0050/-0.0050 | 6.4207                | 6.4216                | 6.4212                | 6.4214                |  |
| 37        | 6.8020  | +0.0050/-0.0050 | 6.8041                | 6.8054                | 6.8042                | 6.8051                |  |
| 38        | 6.9630  | +0.0050/-0.0050 | 6.9661                | 6.9667                | 6.9659                | 6.9667                |  |
| 39        | 7.0250  | +0.0050/-0.0050 | 7.0269                | 7.0278                | 7.0269                | 7.0277                |  |
| 40        | 7.1560  | +0.0050/-0.0050 | 7.1587                | 7.1595                | 7.1592                | 7.1592                |  |
| 41        | 7.9250  | +0.0050/-0.0050 | 7.9273                | 7.9285                | 7.9276                | 7.9282                |  |
| 42        | 8.2630  | +0.0050/-0.0050 | 8.2647                | 8.2661                | 8.2648                | 8.2662                |  |
| 43        | 9.1500  | +0.0050/-0.0050 | 9.1528                | 9.1524                | 9.1522                | 9.1529                |  |
| 44        | 0.2090  | +0.0050/-0.0010 | 0.2101                | 0.2098                | 0.2100                | 0.2100                |  |
| 45        | 0.1770  | +0.0050/-0.0010 | 0.1771                | 0.1768                | 0.1770                | 0.1771                |  |
| 46        | 0.2130  | +0.0050/-0.0050 | 0.2162                | 0.2152                | 0.2132                | 0.2147                |  |
| 47        | 0.2500  | +0.0050/-0.0050 | 0.2497                | 0.2477                | 0.2450                | 0.2489                |  |
| 48        | 0.8970  | +0.0050/-0.0050 | 0.9001                | 0.8996                | 0.8964                | 0.8988                |  |
| 49        | 0.9410  | +0.0050/-0.0050 | 0.9429                | 0.9426                | 0.9389                | 0.9413                |  |
| 50        | 0.9620  | +0.0050/-0.0050 | 0.9639                | 0.9638                | 0.9600                | 0.9625                |  |
| 51        | 1.5630  | +0.0050/-0.0050 | 1.5627                | 1.5629                | 1.5588                | 1.5619                |  |
| 52        | 2.4510  | +0.0050/-0.0050 | 2.4523                | 2.4522                | 2.4477                | 2.4509                |  |
| 53        | 2.5890  | +0.0050/-0.0050 | 2.5900                | 2.5900                | 2.5859                | 2.5886                |  |
| 54        | 2.7260  | +0.0050/-0.0050 | 2.7278                | 2.7274                | 2.7239                | 2.7265                |  |
| 55        | 2.8640  | +0.0050/-0.0050 | 2.8657                | 2.8648                | 2.8619                | 2.8641                |  |
| 56        | 3.1720  | +0.0050/-0.0050 | 3.1731                | 3.1734                | 3.1688                | 3.1722                |  |
| 57        | 3.2220  | +0.0050/-0.0050 | 3.2248                | 3.2238                | 3.2209                | 3.2227                |  |
| 58        | 3.5660  | +0.0050/-0.0050 | 3.5676                | 3.5679                | 3.5635                | 3.5665                |  |
| 59        | 3.8470  | +0.0050/-0.0050 | 3.8489                | 3.8489                | 3.8451                | 3.8477                |  |
| 60        | 4.0000  | +0.0050/-0.0050 | 4.0022                | 4.0012                | 3.9983                | 4.0002                |  |
| 61        | 4.1850  | +0.0050/-0.0050 | 4.1868                | 4.1864                | 4.1829                | 4.1852                |  |
| 62        | 4.2860  | +0.0050/-0.0050 | 4.2888                | 4.2873                | 4.2852                | 4.2864                |  |

**Measured by:**  
Mathieu Lamarche

**Date:**  
2015-12-10

**Audited by:** DAS  
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9-89

**Date:**

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|                                 |                                    |                              |
|---------------------------------|------------------------------------|------------------------------|
| <b>Part Number:</b><br>646.3011 | <b>Rev:</b><br>N/C                 | - Page 3 -                   |
| <b>Description:</b><br>RH HALF  | <b>Inspection Dwg:</b><br>646.3000 | <b>Work Order:</b><br>136653 |

| Item Ref. | Nominal | Tolerance       | No. Piece_1<br>Actual | No. Piece_2<br>Actual | No. Piece_3<br>Actual | No. Piece_4<br>Actual |  |
|-----------|---------|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|--|
| 63        | 4.5220  | +0.0050/-0.0050 | 4.5244                | 4.5233                | 4.5207                | 4.5222                |  |
| 64        | 4.8600  | +0.0050/-0.0050 | 4.8629                | 4.8615                | 4.8589                | 4.8603                |  |

**Measured by:**  
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**Date:**  
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**Date:**

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|                                 |                                    |                              |
|---------------------------------|------------------------------------|------------------------------|
| <b>Part Number:</b><br>646.3011 | <b>Rev:</b><br>N/C                 | <b>- Page 1 -</b>            |
| <b>Description:</b><br>RH HALF  | <b>Inspection Dwg:</b><br>646.3000 | <b>Work Order:</b><br>136653 |

| Item Ref. | Nominal | Tolerance       | No. Piece_5<br>Actual | No. Piece_6<br>Actual |  |  |  |
|-----------|---------|-----------------|-----------------------|-----------------------|--|--|--|
| 1         | 9.5360  | +0.0050/-0.0050 | 9.5358                | 9.5358                |  |  |  |
| 2         | 8.8980  | +0.0050/-0.0050 | 8.8990                | 8.8990                |  |  |  |
| 3         | 8.2990  | +0.0050/-0.0050 | 8.2989                | 8.2988                |  |  |  |
| 4         | 7.2130  | +0.0050/-0.0050 | 7.2133                | 7.2133                |  |  |  |
| 5         | 7.1880  | +0.0050/-0.0050 | 7.1877                | 7.1879                |  |  |  |
| 6         | 8.1000  | +0.5000/-0.5000 | 8.1076                | 8.1070                |  |  |  |
| 7         | 7.1000  | +0.5000/-0.5000 | 7.1158                | 7.1158                |  |  |  |
| 8         | 2.5630  | +0.0050/-0.0050 | 2.5632                | 2.5634                |  |  |  |
| 9         | 0.0770  | +0.0050/-0.0050 | 0.0770                | 0.0766                |  |  |  |
| 10        | 0.6250  | +0.0050/-0.0050 | 0.6239                | 0.6212                |  |  |  |
| 11        | 1.3000  | +0.0050/-0.0050 | 1.3008                | 1.3007                |  |  |  |
| 12        | 1.6750  | +0.0050/-0.0050 | 1.6754                | 1.6753                |  |  |  |
| 13        | 2.5540  | +0.0050/-0.0050 | 2.5523                | 2.5524                |  |  |  |
| 14        | 1.5000  | +0.0050/-0.0050 | 1.5018                | 1.5007                |  |  |  |
| 15        | 4.8830  | +0.0050/-0.0050 | 4.8820                | 4.8822                |  |  |  |
| 16        | 5.3170  | +0.0050/-0.0050 | 5.3160                | 5.3163                |  |  |  |
| D17       | 0.1090  | +0.0050/-0.0050 | 0.1123                | 0.1078                |  |  |  |
| D18       | 0.2500  | +0.0050/-0.0050 | 0.2489                | 0.2490                |  |  |  |
| D19       | 0.0500  | +0.0050/-0.0050 | 0.0500                | 0.0500                |  |  |  |
| D20       | 0.2000  | +0.0050/-0.0050 | 0.2000                | 0.2000                |  |  |  |
| 21        | 0.4000  | +0.0050/-0.0050 | 0.4050                | 0.4047                |  |  |  |
| 22        | 0.8280  | +0.0050/-0.0050 | 0.8319                | 0.8319                |  |  |  |
| 23        | 0.9560  | +0.0050/-0.0050 | 0.9591                | 0.9587                |  |  |  |
| 24        | 1.4000  | +0.0050/-0.0050 | 1.4037                | 1.4041                |  |  |  |
| 25        | 2.5880  | +0.0050/-0.0050 | 2.5921                | 2.5920                |  |  |  |
| 26        | 2.6610  | +0.0050/-0.0050 | 2.6639                | 2.6633                |  |  |  |
| 27        | 3.1160  | +0.0050/-0.0050 | 3.1189                | 3.1190                |  |  |  |
| 28        | 3.2510  | +0.0050/-0.0050 | 3.2542                | 3.2543                |  |  |  |
| 29        | 3.8790  | +0.0050/-0.0050 | 3.8813                | 3.8812                |  |  |  |
| 30        | 4.2170  | +0.0050/-0.0050 | 4.2198                | 4.2194                |  |  |  |
| 31        | 4.5000  | +0.0050/-0.0050 | 4.5040                | 4.5044                |  |  |  |

**Measured by:**  
Mathieu Lamarche

**Date:**  
2015-12-10

**Audited by:** DAS  
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9-89

**Date:**

15/12/10



|                                 |                                    |                              |
|---------------------------------|------------------------------------|------------------------------|
| <b>Part Number:</b><br>646.3011 | <b>Rev:</b><br>N/C                 | <b>- Page 2 -</b>            |
| <b>Description:</b><br>RH HALF  | <b>Inspection Dwg:</b><br>646.3000 | <b>Work Order:</b><br>136653 |

| Item Ref. | Nominal | Tolerance       | No. Piece_5<br>Actual | No. Piece_6<br>Actual |  |  |  |
|-----------|---------|-----------------|-----------------------|-----------------------|--|--|--|
| 32        | 4.7750  | +0.0050/-0.0050 | 4.7781                | 4.7798                |  |  |  |
| 33        | 5.3170  | +0.0050/-0.0050 | 5.3205                | 5.3201                |  |  |  |
| 34        | 5.3400  | +0.0050/-0.0050 | 5.3430                | 5.3427                |  |  |  |
| 35        | 5.7500  | +0.0050/-0.0050 | 5.7535                | 5.7536                |  |  |  |
| 36        | 6.4180  | +0.0050/-0.0050 | 6.4209                | 6.4211                |  |  |  |
| 37        | 6.8020  | +0.0050/-0.0050 | 6.8042                | 6.8044                |  |  |  |
| 38        | 6.9630  | +0.0050/-0.0050 | 6.9654                | 6.9667                |  |  |  |
| 39        | 7.0250  | +0.0050/-0.0050 | 7.0273                | 7.0269                |  |  |  |
| 40        | 7.1560  | +0.0050/-0.0050 | 7.1591                | 7.1589                |  |  |  |
| 41        | 7.9250  | +0.0050/-0.0050 | 7.9278                | 7.9275                |  |  |  |
| 42        | 8.2630  | +0.0050/-0.0050 | 8.2655                | 8.2651                |  |  |  |
| 43        | 9.1500  | +0.0050/-0.0050 | 9.1514                | 9.1531                |  |  |  |
| 44        | 0.2090  | +0.0050/-0.0010 | 0.2101                | 0.2101                |  |  |  |
| 45        | 0.1770  | +0.0050/-0.0010 | 0.1772                | 0.1771                |  |  |  |
| 46        | 0.2130  | +0.0050/-0.0050 | 0.2145                | 0.2134                |  |  |  |
| 47        | 0.2500  | +0.0050/-0.0050 | 0.2469                | 0.2460                |  |  |  |
| 48        | 0.8970  | +0.0050/-0.0050 | 0.8990                | 0.8971                |  |  |  |
| 49        | 0.9410  | +0.0050/-0.0050 | 0.9420                | 0.9396                |  |  |  |
| 50        | 0.9620  | +0.0050/-0.0050 | 0.9628                | 0.9608                |  |  |  |
| 51        | 1.5630  | +0.0050/-0.0050 | 1.5617                | 1.5593                |  |  |  |
| 52        | 2.4510  | +0.0050/-0.0050 | 2.4516                | 2.4489                |  |  |  |
| 53        | 2.5890  | +0.0050/-0.0050 | 2.5895                | 2.5869                |  |  |  |
| 54        | 2.7260  | +0.0050/-0.0050 | 2.7273                | 2.7248                |  |  |  |
| 55        | 2.8640  | +0.0050/-0.0050 | 2.8654                | 2.8625                |  |  |  |
| 56        | 3.1720  | +0.0050/-0.0050 | 3.1727                | 3.1699                |  |  |  |
| 57        | 3.2220  | +0.0050/-0.0050 | 3.2242                | 3.2217                |  |  |  |
| 58        | 3.5660  | +0.0050/-0.0050 | 3.5672                | 3.5646                |  |  |  |
| 59        | 3.8470  | +0.0050/-0.0050 | 3.8485                | 3.8461                |  |  |  |
| 60        | 4.0000  | +0.0050/-0.0050 | 4.0015                | 3.9993                |  |  |  |
| 61        | 4.1850  | +0.0050/-0.0050 | 4.1863                | 4.1840                |  |  |  |
| 62        | 4.2860  | +0.0050/-0.0050 | 4.2884                | 4.2858                |  |  |  |

**Measured by:**  
Mathieu Lamarche

**Date:**  
2015-12-10

**Audited by:** DAS  
44  
9-89

**Date:**  
15/12/10



|                                 |                                    |                              |
|---------------------------------|------------------------------------|------------------------------|
| <b>Part Number:</b><br>646.3011 | <b>Rev:</b><br>N/C                 | <b>- Page 3 -</b>            |
| <b>Description:</b><br>RH HALF  | <b>Inspection Dwg:</b><br>646.3000 | <b>Work Order:</b><br>136653 |

| Item Ref. | Nominal | Tolerance       | No. Piece_5<br>Actual | No. Piece_6<br>Actual |  |  |  |
|-----------|---------|-----------------|-----------------------|-----------------------|--|--|--|
| 63        | 4.5220  | +0.0050/-0.0050 | 4.5239                | 4.5215                |  |  |  |
| 64        | 4.8600  | +0.0050/-0.0050 | 4.8628                | 4.8599                |  |  |  |

**Measured by:**  
Mathieu Lamarche

**Date:**  
2015-12-10

**Audited by:** DAS  
44  
9-89

**Date:**  
15/12/10



A.T.G. Industries Inc.  
731, rue Industrielle Rd.  
PLATING DEPARTMENT  
Rockland, On K4K 1T2  
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

### Pack List

Number: 64044

Date: 16-Dec-15

To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ship To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

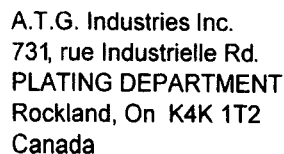
Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

| Terms                                                                                                                                                               |                                                                                                                                                                                              | Ship Via |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------|
| Quantity                                                                                                                                                            | Description                                                                                                                                                                                  | Rev:     | Line: |
| 10<br>ea                                                                                                                                                            | Part: 646.3010<br>LH HALF<br>HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2<br><br>PRIME AS PER MIL-P-23377J TYPE I CLASS N<br>PRIMER IS SUPPLY BY THE CUSTOMER<br>Job: 20150911 PO: PO30730 | N/C      |       |
| 6<br>ea                                                                                                                                                             | Part: 646.3011<br>RH HALF<br>HARD ANODIZE BLACK<br>MIL-A-8625 TYPE III CLASS 2<br><br>PRIME MIL-P-23377J TYPE I CLASS N<br>PAINT IS SUPPLIED BY CUSTOMER<br>Job: 20150912 PO: PO30730        |          |       |
| 10<br>ea                                                                                                                                                            | Part: 647.7612<br>BREAKAWAY<br>HARD ANODIZE BLACK<br>MIL-A-8625 TYPE III CLASS 2<br><br>PRIME MIL-P-23377J TYPE I CLASS N<br>Job: 20150913 PO: PO30730                                       |          |       |
| Certificate of Conformance                                                                                                                                          |                                                                                                                                                                                              |          |       |
| A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order. |                                                                                                                                                                                              |          |       |
| ISO 9001 : 2008 REGISTERED<br>ATG SALES-2010 TERMS APPLY                                                                                                            |                                                                                                                                                                                              |          |       |
| DATE: 16/12/15                                                                                                                                                      |                                                                                                                                                                                              |          |       |



**Fax: (613) 446-4556**

## Number: 64044

Date: 16-Dec-15

### Ship To

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